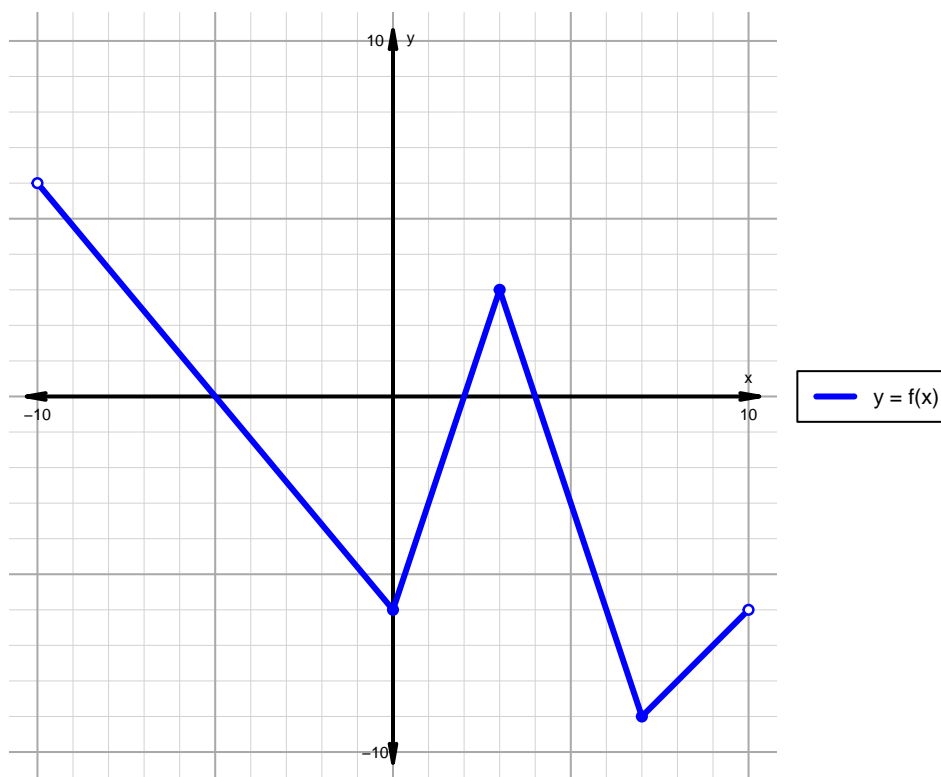


Name: _____

Date: _____

Intervals, Transformations, and Slope Solution (version 15)

1. The function f is graphed below.

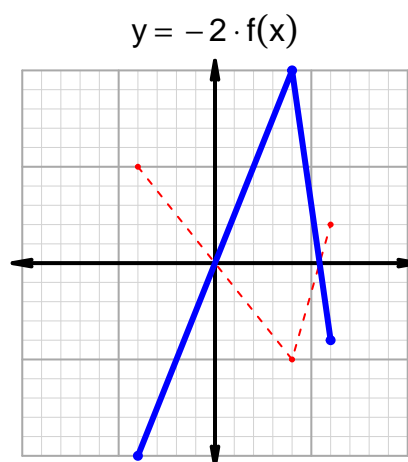
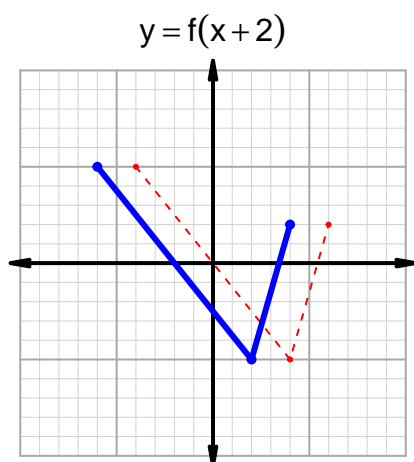
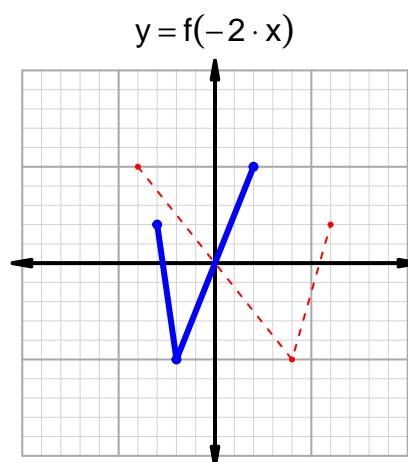
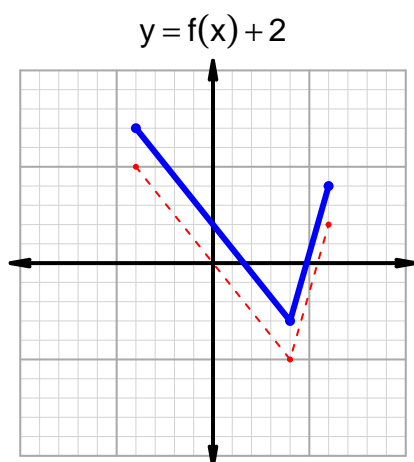


Indicate the following intervals using interval notation. Remember, you can use \cup between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10, -5) \cup (2, 4)$
Negative	$(-5, 2) \cup (4, 10)$
Increasing	$(0, 3) \cup (7, 10)$
Decreasing	$(-10, 0) \cup (3, 7)$
Domain	$(-10, 10)$
Range	$(-9, 6)$

Intervals, Transformations, and Slope Solution (version 15)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. With a solid line, please graph the transformations indicated by the equations below.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2) - g(x_1)}{x_2 - x_1}$ to find the average rate of change between $x_1 = 23$ and $x_2 = 65$. Express your answer as a reduced fraction.

x	$g(x)$
23	61
61	65
65	67
67	23

$$\frac{f(65) - f(23)}{65 - 23} = \frac{67 - 61}{65 - 23} = \frac{6}{42}$$

The greatest common factor of 6 and 42 is 6. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{1}{7}$$